

**REMARKS**

This Application has been carefully reviewed in light of the Office Action mailed December 22, 2003. Applicants appreciate the Examiner's consideration of the Application. Claims 7, 16, and 22 have been amended to clarify, more particularly point out, and more distinctly claim inventive concepts previously present in these claims. These amendments are not considered necessary for patentability. Applicants respectfully submit that no new matter has been added by the amendments to the claims. In order to advance prosecution of this Application, Applicants have responded to each notation by the Examiner. Applicants respectfully request reconsideration and favorable action in this case.

**Section 103(a) Rejection**

The Examiner rejects Claims 2, 4-11, 13-17, 19, and 21-26 under 35 U.S.C. § 103(a) as being unpatentable over PCT Patent Application Publication No. WO 02/14913 to Cotteverte et al. ("*Cotteverte*"). Applicants respectfully traverse this rejection for the reasons discussed below.

Applicants respectfully submit that *Cotteverte* fails to disclose, teach, or suggest elements specifically recited in Applicants' claims. For example, *Cotteverte* fails to disclose, teach, or suggest regions having therein a "liquid crystal material" specifically recited in Applicants' independent Claims 4, 5, 7, 14, 16, 21, and 22.

*Cotteverte* discloses an optical waveguide structure that inserts solid rods into cylinders to switch signals. According to *Cotteverte*:

One technique for altering the refractive index of the cylinders 496 from low index to high index and back is to selectively fill predetermined air cylinders 496 with a high index solid material. More specifically, a solid plate having complimentary shaped male cylinders can be activated into the air cylinders 496 for creating a waveguide of solid and uniform index material.

(Page 22, lines 17-21). *Cotteverte* also discloses:

As described above, the objective for performing the switching function is to realize a photonic crystal device with means for changing the refractive index of the cylinders 496, normally filled with air, by inserting small rods 512 of high index material into the photonic crystal holes forming the cylinders 496. The diameter of the inserted rod 512 sets the magnitude of the modification. More specifically, smaller diameter rods produce smaller modification to the refractive index, whereas larger diameter rods produce larger modification to the refractive index and thus the photonic bandgap structure.

(Page 22, line 25—page 23, line 1). That is, the optical waveguide structure of *Cotteverte* switches signals by inserting solid rods into cylinders. Therefore, *Cotteverte* fails to disclose, teach, or suggest regions having therein a "liquid crystal material" specifically recited in Applicants' independent Claims 4, 5, 7, 14, 16, 21, and 22.

Applicants' dependent claims are allowable based on their dependence on the independent claims and further because they recite numerous additional patentable distinctions over the reference of the rejection. Because Applicants believe they have amply demonstrated the allowability of the independent claims over the reference of the rejection, and to avoid burdening the record, Applicants have not provided additional detailed remarks concerning these dependent claims. Applicants, however, remain ready to provide such remarks if it becomes appropriate to do so.

Applicants respectfully request reconsideration and allowance of independent Claims 4, 5, 7, 14, 16, 21, and 22 and all claims that depend on these claims.

**CONCLUSION**

Applicants have made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicants respectfully request full allowance of all the pending claims.

If the Examiner believes a telephone conference would advance prosecution of this case in any way, the Examiner is invited to contact Keiko Ichiye, the Attorney for Applicants, at the Examiner's convenience at (214) 953-6494.

Although Applicants believe no fees are due, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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